AMENDMENTS TO THE CLAIMS:

This listing of the claims will replace all prior listings and versions of claims in the application.

1-31 (canceled)

32. (currently amended) A method for analyzing microRNA, comprising:

a) contacting microRNA comprising a 3' terminal end and a 5' terminal end with an unlabeled hairpin probe to form an unlabeled RNA detection structure comprising an RNA-DNA heteroduplex between said microRNA and said unlabeled hairpin probe, wherein said microRNA is fewer than 30 nucleotides in length, and wherein said unlabeled hairpin probe comprises a first region that is DNA and that is complementary to at least a portion of said microRNA, wherein said portion of said microRNA comprises at least one of said 3' terminal end or said 5' terminal end ~~of said microRNA~~, and a second region that is not complementary to said microRNA, wherein a first portion of said second region is complementary to a second portion of said second region, wherein said first portion and said second portion hybridize to each other to form a duplex when said unlabeled hairpin probe is hybridized to said microRNA, and wherein said duplex and said first region of said unlabeled probe are within one nucleotide of each other;

b) reacting said unlabeled RNA detection structure with at least one of a structure-specific nuclease or a DNA polymerase to form an unlabeled modified RNA detection structure, wherein said reacting comprises cleaving and/or extending at least one of said unlabeled hairpin probe or said microRNA in said unlabeled RNA detection structure ;

c) disassociating said microRNA from said unlabeled hairpin probe, wherein said disassociating comprises disassociation of an RNA-DNA heteroduplex; and

d) following disassociation, detecting formation of said unlabeled modified RNA detection structure.

33. (previously presented) The method of claim 32, wherein said detecting comprises quantitating said microRNA.

34. (previously presented) The method of claim 32, wherein said detecting comprises forming an invasive cleavage structure, cleaving said invasive cleavage structure, and detecting the cleavage of said invasive cleavage structure.

35. (withdrawn) The method of claim 32, wherein said detecting comprises use of a detection assay that employs sequence analysis.

36. (previously presented) The method of claim 32, wherein said detecting comprises use of a detection assay that employs polymerase chain reaction.

37. (withdrawn) The method of claim 32, wherein said detecting comprises use of a detection assay that employs microarray hybridization .

38. (withdrawn) The method of claim 32, wherein said detecting comprises use of a detection assay that employs ligation.

39. (previously presented) The method of claim 32, wherein said detecting comprises use of a labeled probe.

40. (previously presented) The method of claim 39, wherein said labeled probe is fluorescently labeled.

41. (previously presented) The method of claim 39, wherein said labeled probe is configured for FRET detection.

42. (previously presented) The method of claim 41, wherein said labeled probe has a first conformation when not hybridized in a duplex and a second conformation when hybridized in a duplex.

43. (previously presented) The method of claim 41, wherein said labeled probe exhibits increased fluorescence when hybridized in a duplex.

44. (previously presented) The method of claim 32, wherein said detecting comprises use of a detection assay that employs polymerase chain reaction coupled with 5' nuclease cleavage of a labeled probe.

45. (previously presented) The method of claim 44, wherein said labeled probe is fluorescently labeled.

46. (previously presented) The method of claim 44, wherein said labeled probe is configured for FRET detection upon cleavage.

47. (previously presented) The method of claim 32, wherein said detecting comprises exposing said unlabeled RNA detection structure to a polymerase under conditions that permit primer extension.

48. (previously presented) The method of claim 32, wherein said detecting comprises determining the presence of said microRNA in a sample.

49. (previously presented) The method of claim 48, wherein said detecting comprises distinguishing said microRNA from another nucleic acid in said sample.

50. (previously presented) The method of claim 49, wherein said sample comprises a cell lysate.

51. (previously presented) The method of claim 32, wherein said microRNA is approximately 21-22 nucleotides in length.

52. (previously presented) The method of claim 32, wherein a plurality of different microRNAs are detected.

53. (previously presented) The method of claim 52, wherein said plurality of microRNAs comprise a first microRNA and a second microRNA that is said first microRNA having a polymorphism.

54. (previously presented) The method of claim 32, wherein said microRNA is selected from the group consisting of Let-7, miR-1, miR-135, miR-15, miR-16, miR125b, miR-1d, and miR124a.

55. (previously presented) The method of claim 32, wherein at least a portion of said unlabeled RNA detection structure comprises a nucleotide analog.

56. (previously presented) The method of claim 32, wherein at least a portion of said unlabeled RNA detection structure comprises a peptide nucleic acid.

57. (currently amended) A method for analyzing microRNA, comprising:

a) contacting microRNA comprising a 3' terminal end and a 5' terminal end with an unlabeled hairpin probe to form an unlabeled RNA detection structure comprising an RNA-DNA heteroduplex between said microRNA and said unlabeled hairpin probe, wherein said microRNA is fewer than 30 nucleotides in length, and wherein said unlabeled hairpin probe comprises a first region that is DNA and that is complementary to at least a portion of said microRNA, wherein said portion of said microRNA comprises at least one of said 3' terminal end or said 5' terminal end of said microRNA and a second region that is not complementary to said microRNA, wherein a first portion of said second region is complementary to a second portion of said second region, wherein said first

portion and said second portion hybridize to each other to form a duplex when said unlabeled hairpin probe is hybridized to said microRNA, wherein said duplex and said first region of said unlabeled probe are within one nucleotide of each other; and

b) reacting said unlabeled RNA detection structure with a structure-specific nuclease or a DNA polymerase to form an unlabeled modified RNA detection structure, wherein said reacting comprises cleaving and/or extending at least one of said unlabeled hairpin probe or said microRNA in said detection structure;

c) disassociating said microRNA from said unlabeled hairpin probe, wherein said disassociating comprises disassociation of an RNA-DNA heteroduplex; and

d) following disassociation, detecting formation of said unlabeled modified RNA detection structure, wherein said detecting formation of said unlabeled modified RNA detection structure comprises use of an amplification reaction.

58. (previously presented) The method of Claim 57, wherein said amplification reaction comprises a target amplification reaction.

59. (previously presented) The method of claim 58, wherein said target amplification reaction comprises a polymerase chain reaction.

60. (previously presented) The method of Claim 57, wherein said amplification reaction comprises a signal amplification reaction.

61. (previously presented) The method of Claim 60, wherein said signal amplification reaction comprises forming an invasive cleavage structure, cleaving said invasive cleavage structure, and detecting the cleavage of said invasive cleavage structure.

62. (previously presented) The method of claim 57, wherein said detecting comprises quantitating said microRNA.

63. (previously presented) The method of claim 57, wherein said detecting comprises use of a labeled probe.

64. (previously presented) The method of claim 63, wherein said labeled probe is fluorescently labeled.

65. (previously presented) The method of claim 64, wherein said labeled probe is configured for FRET detection.

66. (previously presented) The method of claim 63, wherein said labeled probe has a first conformation when not hybridized in a duplex and a second conformation when hybridized in a duplex.

67. (previously presented) The method of claim 63, wherein said labeled probe exhibits increased fluorescence when hybridized in a duplex.

68. (previously presented) The method of claim 59, wherein said polymerase chain reaction is coupled with 5' nuclease cleavage of a labeled probe.

69. (previously presented) The method of claim 68, wherein said labeled probe is fluorescently labeled.

70. (previously presented) The method of claim 68, wherein said labeled probe is configured for FRET detection upon cleavage.

71. (previously presented) The method of claim 57, wherein said detecting comprises exposing said unlabeled RNA detection structure to a polymerase under conditions that permit primer extension.

72. (previously presented) The method of claim 57, wherein said detecting comprises determining the presence of said microRNA in a sample.

73. (previously presented) The method of claim 57, wherein said detecting comprises distinguishing said microRNA from another nucleic acid in said sample.

74. (previously presented) The method of claim 72, wherein said sample comprises a cell lysate.

75. (previously presented) The method of claim 57, wherein said microRNA is approximately 21-22 nucleotides in length.

76. (previously presented) The method of claim 57, wherein a plurality of different microRNAs are detected.

77. (previously presented) The method of claim 74, wherein said plurality of microRNAs comprise a first microRNA and a second microRNA that is said first microRNA having a polymorphism.

78. (previously presented) The method of claim 57, wherein said microRNA is selected from the group consisting of Let-7, miR-1, miR-135, miR-15, miR-16, miR125b, miR-1d, and miR124a.

79. (previously presented) The method of claim 57, wherein at least a portion of said unlabeled RNA detection structure comprises a nucleotide analog.

80. (previously presented) The method of claim 57, wherein at least a portion of said unlabeled RNA detection structure comprises a peptide nucleic acid.

81. (currently amended) The method of Claim 32, wherein said formation of said an unlabeled RNA detection structure further comprises contacting said microRNA

with a second unlabeled probe, wherein said second unlabeled probe comprises a first region that is complementary to a second portion of said microRNA wherein said second portion of said microRNA comprises a 3' terminal end or a 5' terminal end ~~said microRNA~~ that is not complementary to said the first unlabeled probe, and a second region that is not complementary to said microRNA.

82. (currently amended) The method of Claim 57, wherein said formation of an unlabeled RNA detection structure further comprises contacting said microRNA with a second unlabeled probe, wherein said second unlabeled probe comprises a first region that is complementary to a second portion of said microRNA wherein said second portion of said microRNA comprises a 3' terminal end or a 5' terminal end ~~said microRNA~~ that is not complementary to said the first unlabeled probe, and a second region that is not complementary to said microRNA.